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PATENT SPECIFICATION

Application Date : Feb. 23, 1927. No. 5132/27. **287,692**

Complete Left : Nov. 22, 1927.

Complete Accepted : March 29, 1928.

PROVISIONAL SPECIFICATION.

Improvements in Rake Gear for Filters.

I, CHARLES ROBERT BARRINGTON BROWN, 10, Maryland Road, Wood Green, London, N., British subject, do hereby declare the nature of this invention to be as follows :—

My invention relates to improvements in rake gear for filters of the mechanical type, in which the filter media, usually sand, is agitated by a revolving rake during the cleansing process.

The rake in ordinary use for the purpose, comprises a rigid horizontal member, fixed centrally to an upright shaft, and having stirring rods or prongs fixed to and pending below same.

Under this arrangement the velocity of the movement of the stirring rods through the filtering media increases in proportion to their radial distance from the centre of rotation, and as a consequence the media is less effectively agitated in certain parts of the filter than others, and the object of my invention is to provide an arrangement or device by which the stirring rods will move at approximately the same velocity through the media at all parts of the filter area.

In apparatus constructed according to my invention, the stirring rods are fixed to subsidiary horizontal frames, which are arranged so that they can rotate in bearings fixed to the main horizontal arm.

In operation, when the main horizontal arm is rotated by means of the vertical shaft fixed centrally to same, the subsidiary frames to which the stirring rods are attached are caused, by the frictional resistance offered by the filter media to the movement of the stirring rods, to have an independent rotation at a velocity sufficient to equalise the frictional resistance at all points of their travel.

Dated the 22nd day of February, 1927.

CHARLES R. B. BROWN.

COMPLETE SPECIFICATION.

Improvements in Rake Gear for Filters.

I, CHARLES ROBERT BARRINGTON BROWN, 10, Maryland Road, Wood Green, London, N., British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

My invention relates to improvements in rake gear for filters of the mechanical type, in which the filter media, usually sand, is agitated by a revolving rake during the cleaning process.

The rake in ordinary use for the purpose, comprises a rigid horizontal member, fixed centrally to an upright shaft, and having stirring rods or prongs fixed to and pending below same.

Under this arrangement the velocity of the movement of the stirring rods through the filtering media increases in proportion to their radial distance from the centre of rotation, and as a consequence the media is less effectively agitated in certain parts of the filter than others, and the object of my invention is to provide an arrangement or device by which the stirring rods will move at approximately the same velocity through the media at all parts of the filter area.

In apparatus constructed according to my invention, the stirring rods are fixed to subsidiary horizontal frames, which are arranged so that they can rotate on bearings fixed to the main horizontal arm.

In operation, when the main horizontal arm is rotated by means of the vertical shaft fixed centrally to same, the subsidiary frames to which the stirring rods are attached are caused by the frictional resistance offered by the filter media, to the movement of the stirring rods, to have an independent rotation at a velocity sufficient to equalise the frictional resistance at all points of their travel.

I will now proceed to describe my invention more fully with reference to the accompanying drawing of which Fig. 1 is a sectional elevation of a filter with rake or stirring gear constructed accord-

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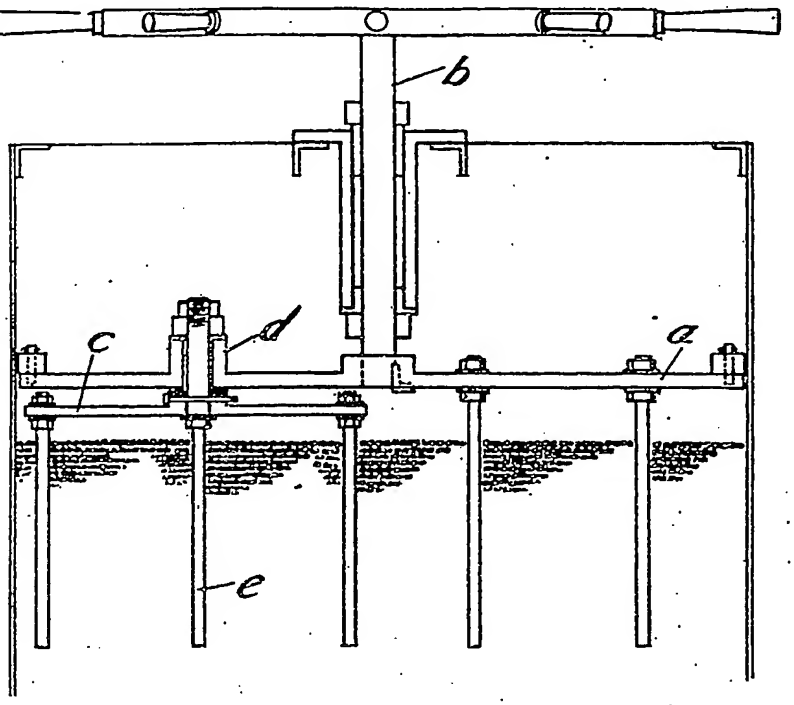

FIG. 1.

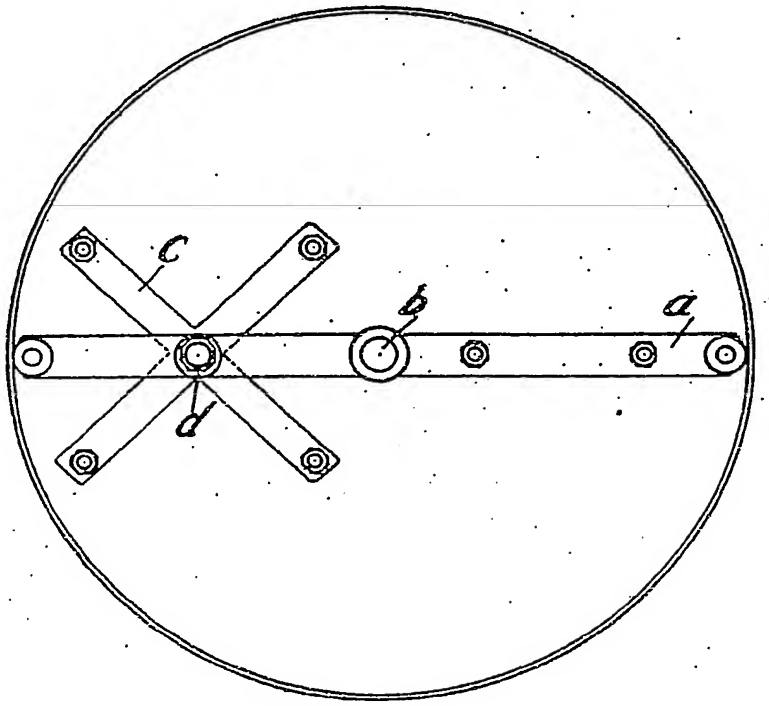

FIG. 2.

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ing to my invention and Fig. 2 a plan view of same. *a* is the main horizontal frame which is rotated either by hand or power according to circumstances by means of the vertical spindle *b*. *c* is the subsidiary frame arranged to be freely rotatable on a bearing *d* on the main frame and to which are fixed at equal distances from the centre of rotation 3 or more stirring rods *e* (three being the minimum number necessary for operation). For the purpose of balancing the thrust on the spindle *b*, I may provide as shown rake or stirring rods fixed to the main horizontal frame on a suitable position for this purpose.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

In stirring or rake gear for sand filters or the like the provision of a subsidiary frame or frames to which rake or stirring rods are fixed in such a manner as to cause the subsidiary frame to rotate on its own axis by the resistance of the filtering media when the main frame is rotated, as and for the purpose specified and described, and as illustrated in the accompanying drawing.

Dated the 21st day of November, 1927.

CHARLES R. B. BROWN.